

1. A map data processing unit that has a function of updating map data, and includes a display section for performing various types of display including display of a processing result of the map data, a manipulation section for carrying out input manipulation for processing the map data, and a control section for performing entire control, said map data processing unit comprising:

an update data input section for inputting update data for updating the map data to latest version map data;

10 a batch update section for collectively updating all the map data to the latest version map data in accordance with the update data fed from said update data input section;

a dynamic update section for updating the map data to the latest version map data in accordance with the update data fed from said update data input section every time the map data becomes necessary;

an update method selecting section for selecting one of the batch update section and dynamic update section in response to the update data; and

20 a map data storing section for storing the map data.

2. The map data processing unit according to claim 1, wherein said batch update section makes old version map data available until the batch update of the map data has been completed.

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3. The map data processing unit according to claim 1, wherein said batch update section comprises:

a differential data update section for updating the old version map data in accordance with differential update data between the old version map data and the latest version map data;

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and

an entire data update section for updating the old version map data in accordance with a complete set of update data.

5 4. The map data processing unit according to claim 3, wherein said map data storing section stores the old version map data and updated latest version map data.

10 5. A map data processing unit that has a function of updating map data, and includes a display section for performing various types of display including display of a processing result of the map data, a manipulation section for carrying out input manipulation for processing the map data, and a control section for performing entire control, said map data processing unit  
15 comprising:

a post-update data cache section for temporarily storing, in a cache, latest version map data to be read in response to a request for map data;

20 an update data input section for inputting update data for updating the map data to the latest version map data, when said post-update data cache section does not store the map data; and

a dynamic update section for updating, when said update data input section inputs the update data, old version map data to latest version map data to be stored in the cache, in  
25 accordance with the update data fed from said update data input section every time a request for the map data occurs.

6. The map data processing unit according to claim 5, further comprising:

30 a pre-update section for updating a plurality of map data

in advance; and

a pre-update decision section for deciding the map data to be updated in advance by said pre-update section, wherein said post-update data cache section stores the map data that is updated by said pre-update section and is to be read in response to the request of the map data.

7. The map data processing unit according to claim 5, further comprising:

10 a pre-update section for updating a plurality of map data in advance;

a pre-update decision section for deciding the map data to be updated in advance by said pre-update section; and

15 a pre-update data recording section for recording the map data that is updated by said pre-update section and is to be read in response to the request for the map data.

8. The map data processing unit according to claim 6, further comprising a current position acquisition section for acquiring a current position, wherein

20 said pre-update section updates in advance the map data around the current position acquired by said current position acquisition section.

25 9. The map data processing unit according to claim 7, further comprising a current position acquisition section for acquiring a current position, wherein

30 said pre-update section updates in advance the map data around the current position acquired by said current position acquisition section.

10. The map data processing unit according to claim 6, further comprising a location registration section for carrying out location registration, wherein

5       said pre-update section updates in advance the map data around the location registered in said location registration section.

11. The map data processing unit according to claim 7, further comprising a location registration section for carrying out location registration, wherein

      said pre-update section updates in advance the map data around the location registered in said location registration section.

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12. The map data processing unit according to claim 6, further comprising a driving history recording section for storing driving history information, wherein

      said pre-update section updates in advance the map data around a place indicated by the driving history information stored in said driving history recording section.

13. The map data processing unit according to claim 7, further comprising a driving history recording section for storing driving history information, wherein

      said pre-update section updates in advance the map data around a place indicated by the driving history information stored in said driving history recording section.

30 14. A map data processing unit comprising:

an update data input section for inputting update data for updating old version map data to latest version map data;

an update data recording section for recording the update data input by said update data input section;

5        an update section for updating, when a map data request from an application occurs, the old version map data to the latest version map data in accordance with the old version map data and the update data stored in said update data recording section, which old version map data and update data correspond to the  
10 map data associated with the map data request from the application;

a map data storing section for storing the map data;

a display section for displaying a processing result of the map data;

15        a manipulation section for performing input manipulation for processing the map data; and

a control section for carrying out overall control.